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ORIGINAL LECTURES.

CLINICAL LECTURE

ON RELAPSES IN TYPHOID FEVER, AND ON TYPHO-MALARIAL FEVER.

Delivered at the Pennsylvania Hospital

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(Reported for the *Medical Times.*)

RELAPSES IN TYPHOID FEVER.

THIS patient was admitted to the wards on the 6th of March. He is a sailor, an Italian by birth, and entirely unable to speak the English language. The history of the case prior to admission is not therefore as full as might be desired. As far as we could gather at that time, however, the man had been ill for about a week before he came into our hands. For the space of three days prior to admission he had been confined to bed with cough, diarrhœa, abdominal pain, and headache. He still suffered from these symptoms when he was admitted into the hospital. There had evidently been some history of exposure to malarial influences. The typical eruption which appeared in due time, the tympanites, the delirium, and the more or less constant and copious diarrhœa combined to render the diagnosis of the case plain,—it was evidently a severe case of typhoid fever. For some days the temperature was quite high at the evening exacerbations, marking 105°, 104°, and 103½°.

By the end of the third week of the attack, March 21, the patient was distinctly convalescent. His pulse was 72, and his temperature varied from 98½° to 99°. On the 24th of March the temperature was down to normal. Later still the patient was allowed to dress and leave the ward. He was furiously hungry, and, notwithstanding our cautions, he partook of a very ample meal of chicken and boiled potatoes. This was on the 7th of April. After this repast he complained of considerable pain in the abdomen, and his temperature ran up suddenly to 105° in the evening. The next morning it declined to 103°. From that time on until a few days ago (April 10) it has remained in the neighborhood of 103°. The diarrhœa returned, there was considerable delirium at night and marked febrile phenomena. The pulse varied from 100 to 120 per minute, and the belly again became tender and tympanitic. At first the man's bowels were somewhat constipated, but afterwards there were from two to three stools daily. Very early in the relapse the tongue became coated and showed the peculiar reddish hue at its tip.

This morning (April 13) the temperature was 101½°, and the tongue still slightly coated and red at the tip. The patient sweats slightly, and a marked typhoid fever eruption appears over the abdomen upon pressure. This eruption came on early in the relapse, thirty-six hours after the first symptom appeared. The resident physician, indeed, tells me that a few spots made their appearance in the first twenty-four hours. From this we see that the eruption came on almost simultaneously with the relapse and consequent rise of temperature. The splenic dulness is once more present, the spleen extending slightly beyond the margin of the ribs. As soon as the relapse announced itself, we placed the patient once more upon ten grains of quinia daily and ten drops of muriatic acid every three hours. He was sponged all over with cold water in the mornings and evenings. Within the past two days the diarrhœa has been but slight,—one or two passages daily,—the man sleeps well at night, and is, in fact, once more on the rapid road to recovery. To-day is just the ending of the first week of the relapse.

Before sending this man back to the wards, I want to call your attention to a few points of interest in the case, and, in the first place, I wish to show you that a relapse in the course of typhoid fever may occur after the patient is to all intents and purposes entirely well of the disease. As regards the febrile phenomena of a relapse, they may be just as marked as at first,—*i.e.*, at the beginning of the first attack,—with this exception, that the rise of temperature is immediate in a relapse. In the original attack the temperature rises gradually,—rising and dropping each evening and morning until the fifth day, when it reaches its average height for the following two weeks.

In the second place, in a relapse the fever runs a more irregular course than in

the original attack. The fever is not so sustained, and there are greater variations of temperature. Then again a relapse of typhoid fever is never so long as the original attack. This is only the fifth day of this man's relapse, and yet the temperature is already down to 101½°. In the course of five days more, if all goes well, the temperature will be all right again.

As regards the eruption in a relapse of typhoid fever, until I had made a particular study of this point myself, I did not know that it was the rule for the eruption to appear almost coincidently with the first symptoms of the relapse. In this instance it appeared in the course of the first twenty-four hours. In the original attack, and indeed generally, it does not show itself until the seventh or ninth day. The eruption of the first attack and of the relapse does not differ in character. Each relapse of typhoid fever is accompanied by an eruption, and this eruption usually lasts as long as the relapse itself. The eruption is not always in proportion to the intensity of the attack,—*i.e.*, the intensity of the enteric symptoms. It is generally, however, most marked where the enteric symptoms are most marked.

There are many other points to which I might call your attention, such as the condition of the nails, tongue, etc., in a relapse, but I have not time to spare to-day for the consideration of these interesting matters.

In the majority of instances of relapse in this disease the prognosis is not bad, the mortality being but very slight if such cases receive the proper attention.

I had this patient put upon the same treatment which I had employed at first. He is taking quinia and muriatic acid, and his body is sponged every night and morning. We are limiting the diarrhœa by opiates and astringents, and carefully regulating the diet.

As regards the origin of this relapse, I may say to you that I was inclined at first to attribute it to the excess in diet, but later inquiries have convinced me that that view is untenable. He had eaten a good deal, but before that time had complained of headache and tympanites. I must leave the cause doubtful.

TYPHO-MALARIAL FEVER.

This young girl is about eighteen years of age, and has always enjoyed the most perfect health up to the time of her present sickness. She states that she has never had malarial fever nor rheumatism. Last summer an eruption appeared on her face, but that was probably of some passing kind and connected with hepatic disturbance. Three months after the eruption had disappeared her feet began to swell and her menses suddenly stopped and since then have been very irregular. With all this, however, there is no clear history of an attack of fever. It was probably nothing but disordered digestion. A week prior to her admission to the wards the patient was seized with fever, headache, and pain in the back, stomach, and left side. Her face too was very much flushed. The thermometer marked 102½° on the evening of her admission. Her tongue was coated and dry. The pain in her neck and in the back of her head grew more intense. She also complained of cough and of pain in her left chest. There was no stiffness of the neck and none of the symptoms of cerebro-spinal meningitis. There was a slight amount of nausea and gastric uneasiness.

As regards my diagnosis of the case, the intestinal pains, the fever apparently without cause, the headache, and the age of the patient all pointed towards typhoid fever. On the second day after admission, however, I decided positively that it was not a case of typhoid fever, and this conclusion has been verified by the results. The symptom which led me to exclude the thought of typhoid fever was the extraordinary temperature record,—showing such marked remissions and exacerbations. In the corresponding stage of typhoid fever such a state of affairs would be almost if not entirely unknown. On the evening of the third day of admission the temperature was 103°, on the third morning it was 99°, on the third evening it again rose to 103°. For several days following this time there was a daily variation of from 3° to 4° between morning and evening temperature. On the 9th of the month the morning temperature was 99°, and the evening temperature 101°. On the 11th the temperature was about normal, with but very little difference between morning and evening charts. On the 12th, yesterday, I ordered the quinia to be stopped, as *quininism* was rapidly making its appearance. The patient had been taking a daily dose of sixteen grains of the drug.

Our treatment by quinia had proved two things to our entire satisfaction,—first, that our view of the nature of the case was the only correct one, and, second, that the minute you discontinue the antiperiodic in a case of malarial infection the temperature may run right up again, although you may have succeeded in reducing it almost to the normal state. (On the evening of the 12th the temperature rose again to 101°.)

This morning the patient's pulse is 74, her respirations 26, and her temperature 99¼°. Her face is somewhat flushed. She is again under the influence of quinia, having taken eight grains this morning. There is no enteric tenderness and no eruption. The spleen is somewhat enlarged, extending, as it does, nearly an inch below the ribs. The area of liver dulness is but slightly increased below the margin of the ribs. There is a left, basic, systolic blood-murmur to be distinguished over the heart.

What can I tell you with regard to the probable origin of this case? It looked very much at first like a case of typhoid fever, but we soon dismissed that idea. Though plainly an instance of malarial fever, we can discover no previous history of malarial exposure. Lately, indeed, the woman has been living in a part of the city which at some rare intervals furnishes cases of malarial infection. I cannot tell you positively concerning the origin of the case: it is doubtful to me.

Therapeutically the case has been of much clinical interest. It has been an admirable and convincing proof of the value of quinia. Quinia, as we have just seen, does not act rapidly in this disease as it does in remittent and intermittent fevers. Here the fever had to run a certain course, and when we suspended the quinia the fever phenomena reappeared at once. This shows us that we must be careful to continue the antiperiodic until we are sure that the last trace of malaria has disappeared from the system.

The patient is again put upon the use of quinia, is again taking sixteen grains daily. We will keep up this amount for a few days longer, and then lessen the dose to eight grains daily. She is also taking ten-drop doses of muriatic acid occasionally. Her tongue is moist again and rapidly clearing off. We are regulating her food very carefully, and when the bowels become over-costive we shall administer some mild purgative. I hope that with care and good treatment our patient will soon be all right again.

ORIGINAL COMMUNICATIONS.

THE GROWTH OF THE FUNGUS ASPERGILLUS IN THE HUMAN EAR.*

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THE aspergillei belong to the division of the fungi called arthrospores. In the same division are other important parasitic fungi, viz., the tricophyton, the microsporon, the achorion, and the oïdium.

The aspergillei form a family by themselves, according to Léveillé, and under the genus aspergillus, Charles Robin enumerates eight species. Some of these species have been found in tuberculous lung, notably in the lungs of birds; but the most interesting species are those which grow in the auditory canal of man.

The fungus aspergillus is not uncommonly found growing in the human ear, where it produces an inflammation of rather a peculiar form. This inflammation is, however, frequently assigned to other causes, and is very often mistaken for simple eczema, which it may accompany or excite.

Doubtless the aspergillus grows often in the ear without being recognized. Hinton, of London, with his enormous field of observation, states that he had not met it, and doubted its existence in denizens of cities. Dr. J. P. Cassells, of Scotland, is the only British writer on the observation of this peculiar aural fungus. Blake, of Boston, thinks it would be much more frequently detected if looked for. It is without doubt often washed from the ear in large masses, and termed wax, by superficial observers. Wreden, of St. Petersburg, who has reported more cases than any other observer,—between sixty and seventy at the last report,—calls the aspergillus the *specific aural fungus*. He claims to have found only two varieties in the ear, the *yellow* and the *black*. The latter is very much more common in its occurrence than the former. Some writers con-

* This paper, accompanied by specimens, both micro- and macroscopic, was read before the Pathological Society of Philadelphia at the regular meeting, April 11, 1878.

sider the aspergillus found in the ear as modified and rendered peculiar by its growth in the ear. Hallier, of Jena, considers aspergillus very similar to penicillium or mould, but that the latter is a larger fungus. One fact is fully established: the aspergillus shows a more marked tendency to grow in the human ear, than any other fungus.

The symptoms of its growth in the ear, and the treatment to be pursued, may be learned from the account of the following cases and specimens:

Specimen No. 1. *Aspergillus nigricans.*—This specimen of aspergillus was removed from the ear of a young merchant, 28 years old, while on a visit to the Centennial Exhibition, September, 1876. The patient stated that he had felt some slight discomfort, itching, and pain in his left ear several days before he came under my notice. The pain in this case gradually increased, until he was obliged to relinquish all efforts at seeing the Exhibition, and seek medical aid.

On examining the ear in this case, the external auditory canal was found nearly entirely filled with the black mass I here show you. Upon subjecting small portions of this mass to the microscope, the peculiar nature of the offending body was revealed. The entire mass was not removed at the first sitting, as the inner surface of the fungous growth was adherent to the membrana tympani. But after the use of alcohol instillations for twenty-four hours, the masses here exhibited were removed, placed in pure glycerin, and have there remained unchanged until now.

After the fungus was entirely removed from the ear, the meatus and the drum-head were seen to be inflamed; but under the use of diluted alcohol, all remaining spores of aspergillus were destroyed, and the various portions of the ear assumed their normal appearances and functions.

Specimen No. 2. *Aspergillus nigricans.*—This small specimen of aspergillus nigricans is interesting chiefly on account of a very pertinacious regrowth. The quantity exhibited this evening is small, but represents the size of five or six masses removed successively from the same ear in the course of a week or ten days.

The patient, a wine-merchant of this city, was 67 years of age, strong and well. He could give no explanation as to the probable cause of growth of this parasite in his ear. He had first noted, some weeks before I saw him, a buzzing in his left ear, accompanied by a diminution of hearing and a slight itching pain. A very slight, *watery* discharge had run from his ear at times since these symptoms were felt. His physician had syringed the ear several times, and had washed out each time a substance, said to be cerumen; but on account of the recurrence of all of the above-named symptoms the case was deemed worthy of a change of treatment.

There was then detected, deep in the anterior part of the auditory canal, near the membrana tympani, in the angle formed by the latter and the anterior wall of the external auditory canal, the dirty-white mass herewith shown you. Its true nature was discovered by a microscopic examination.

After a thorough cleansing of the ear, instillations of alcohol were applied to the meatus once daily, and the ear syringed regularly thrice daily, whereupon the symptoms of disease abated. With an attack of small furuncles in the canal, there was a recurrence of the aspergillus; but all traces of this annoying parasite, at last, in the course of ten days, disappeared under the use of diluted alcohol (water and alcohol equal parts) and warm water syringing thrice daily. The ear then resumed all its normal functions. This man was the oldest person in whose ear I have found the aspergillus growing. The fungus is not found in the ears of children. It is most likely to affect adults between twenty and forty years of age.

Specimen 3. *Aspergillus nigricans.*—This large mass of aspergillus nigricans, mycelium, etc., was removed from the left ear of a large, strong Englishman, 35 years old, a wool-carder in one of the mills in the north-eastern part of our city. In this instance there was excited by the presence of the aspergillus in the ear, considerable eczema and some myringitis,—*i.e.*, some inflammation in the outer layer of the drum-head. The case was persistent, as all cases of aspergillus growth are, when accompanied by eczema of the external ear.

The treatment pursued in this case at first was alcohol undiluted, but this proved too stimulating to the eczematous inflammation, and consequently dilute alcohol was substituted, and the syringing of the ear carefully pursued, in order to remove the fungus and its spores.

In this case there were two diseases,—the one, the eczema, dependent on the other, the growth of a vegetable parasite on the skin of the external auditory canal and drum-head. The treatment adapted to destroy the fungus was likely to increase the eczema, and doubtless did make it worse in this case for a time; but as the eczematous disease in such a case is dependent upon the presence of the fungus, the surgeon is justified in adopting and continuing a treatment most likely to destroy the parasite.

Respecting the use of alcohol instillations in the treatment of aspergillus in the ear, it must be borne in mind that all ears do not tolerate the undiluted alcohol, especially if the skin is at all broken. It is safer, therefore, to begin with instillations of equal parts of alcohol and water.

Specimen 4. *Aspergillus flavescens removed from the ear of a man some years ago.*—The fungus is seen imbedded in fatty matter,—*i.e.*, in oil put into the ear by the patient to relieve the annoyance caused by the growth of the parasite. The chief interest in this case is the opportunity it offers to compare the shape of the sporangia of this variety of aspergillus with those of the other three specimens. It will be seen that the fruit-stalk and head in this case are smaller than in the black variety, and that the sterigmata are wanting around the lower part of the receptaculum. I am not aware that the growth of this variety of aspergillus excites symptoms different from those caused by the growth of the black kind in the ear. (Fig. 3, A.)

The specimens I present this evening illustrate the more common varieties of the aspergillus. The macroscopic appearances of a mass of this fungus, as found in or washed from the ear, are worthy of attention. For although the microscope must in every case decide the presence of aspergillus in a suspicious object coming from the external auditory canal, nevertheless the macroscopic features of such a mass are of such a nature as to lead the surgeon to suspect that he has to deal with a case of aspergillus in the ear. If an ear containing a mass of aspergillus be examined by means of an ear-mirror and ear-funnel, it will present most usually an appearance which will lead to the supposition that the ear is occluded not by wax, but by a foreign matter, which has life, and is hence more or less irritant. Lifeless foreign bodies do no harm to the ear if let alone, but a living foreign object, either animal or vegetable, will invariably excite inflammation sooner or later. If the fungus has not been growing long in the ear, merely a patch of pale yellow pollen-like matter will be detected at the fundus of the auditory canal. This small colony of spores just developing into filaments, for such it is, is usually situate on the membrana tympani, or very near it. In any case, whether the first deposition of spores occurs there or not, the tendency of the aspergillus is to grow over the drum-head first, and from that point it spreads outward, covering the wall of the meatus, until a hollow cast of the canal is formed by the vegetable parasite. This pollen-like appearance is seen only in the very earliest stage of a growth of that which is finally a so-called lardaceous-looking or false membrane, either partially or entirely filling the external auditory canal. If the ear has been invaded by either variety of aspergillus, the growing mass has a yellowish or dirty-white appearance. It looks, in fact, like a piece of sodden newspaper, especially if the fungus is old, when it assumes a darkish-brown color in some cases. Sometimes the ear may seem to be plugged with a black substance looking not unlike wool. An inexperienced eye might conclude that the occluding plug thus formed is of hardened ear-wax; but ear-wax is never literally black, nor does it excite the other symptoms of the presence of aspergillus in the ear, viz., pain and inflammation.

A mass of aspergillus does not lose its coherence when subjected to immersion in water or glycerin, but a lump of ordinary hardened cerumen soon melts, and is diffused throughout the water or any other fluid in which it is allowed to lie. This coherence on the part of a mass of aspergillus would distinguish it from one of ear-wax. The microscope would immediately show whether such a mass washed from the ear were aspergillus or the peculiar laminated epithelial plug, the so-called *keratosis obturans* of Wreden.

As a matter of fact, therefore, we do find whitish and decidedly black masses of aspergillus in the human ear, and not uncommonly there are found masses which are in the main whitish, but which are thickly studded with black spots or are as it were stratified with black.

I may say, in passing, that it is claimed by several authorities in Europe, and by some in this country, that varieties of fungi not aspergillus have been found in the human ear; but these are of infrequent occurrence, and would, by their bluish or red color, attract attention and at once decide their nature as not that of ordinary aspergillus. There is, too, a rare form of aspergillus, known as the ascomycete form, *i.e.*, a form which has flourished so completely as to reach the condition of bearing what is known among mycologists as utricular fruit. This form is said by Wreden to have been found only once by him, and to have been of a beautiful dark red color. It is of so rare an occurrence as not to enter into our consideration at present. Dr. J. Orne Green,* of Boston, has described a form of aspergillus rubens, in which the fungus was, as indicated by the name given it by Dr. Green, of a red color.

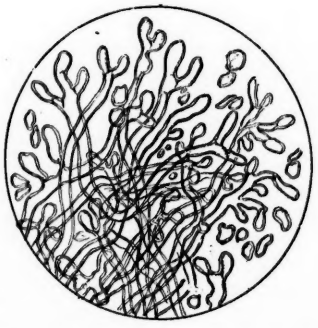
* Proceedings of Boston Society of Medical Sciences, 1875.

The opportunity of observing the early stages of growth in a colony of aspergillus is of course rare. It can only offer itself where the ear is being examined or treated for some other complaint, since the early stages of growth of aspergillus in the ear excite no subjective symptoms which would lead the patient to seek medical aid. As a rule, in cases of aspergillus the patient seeks relief for hardness of hearing which has come upon him rather suddenly and has been attended by a pricking sensation,—sometimes by considerable pain. The pricking or pain has been followed usually by a slight watery discharge, after which the pain has perhaps ceased, but the hardness of hearing continues. Sometimes the pain attending the growth of aspergillus in the ear is very severe, as it was in the case which furnished the remarkably large, deep-black mass I have shown you this evening, in specimen No. 1.

When upon inspection, such a mass is found in the external auditory canal, the first impulse is, or should be, to syringe the ear with warm water. If spontaneous detachment has occurred, the offending matter can usually be syringed out with ease. In most cases parts of it at least, can be washed out, and furnish, on examination, a more accurate clue to the true nature of the mass, than the mere inspection with the ear-mirror. The aspergillus tends, however, to root itself upon the membrana tympani,—to seek, in fact, the most secluded parts of the ear; and it has been known to pass into the tympanic cavity after having destroyed the membrana tympani, as in a case reported by Politzer. But this is a rare occurrence. So far as my observation goes (extending, as it does, over some twenty cases), spontaneous detachment of the false membrane from the membrana tympani is the tendency in all cases of aspergillus in the ear. Where this does not occur, it must be due to the fact that the membrana tympani is abnormally thin and yields to the grasp of the rootlets of the fungus, thus favoring a tighter hold, or there must have been a cicatrized or partially closed perforation in the drum-head which favors the grip of the aspergillus and aids its entrance into the drum-cavity. I have observed one case of aspergillus growing *in the tympanic cavity*,* though I strongly suspect that the case furnishing the specimen of aspergillus shown in Fig. 2 was one in which some of the fungus had invaded the tympanic cavity.

In most cases syringing will remove the major part of the fungous mass at one sitting, but, of course, enough spores will probably be left behind to engender a fresh growth by the next day. Hence it not uncommonly happens, that an ear which has been entirely cleansed, so far as the eye could detect, of what was supposed to be cerumen, is, to the great surprise of the surgeon, filled in a day or two with a plug as large as the one previously washed out. In such cases it will be found that the fresh growth springs from the angle formed by the anterior wall of the auditory canal and the anterior half of the membrana tympani. Here, spores having become deeply rooted, at least continued syringing must be practised to effect their destruction and removal. Both their destruction and removal must be hastened by the instillation of some of the numerous parasiticides. All things considered, I would give the preference to alcohol, either undiluted or in various proportions with water. In one case it seemed that the cure was hastened by insufflation of a powder, composed of equal parts of magnesia and salicylic acid, into the auditory canal, after all macroscopic portions of the fungus had been removed by means of the syringe.

FIG. 1.

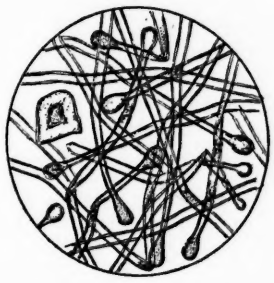


Microscopic features.—The microscopic features of the growth of this parasite are varied and full of interest. If a small piece of a colony of aspergillus in the earliest stages of development, be examined under the microscope with a power of about 250 diameters, a picture similar to that in Fig. 1 will be observed. It is in fact the first formation of rootlets or the

* Transactions International Otological Congress, 1876.

mycelial web, from which later the fruit-stalks spring. It will be seen that some of the filaments composing this web tend to become bulbous at one end, and that the latter, as the stem grows, becomes larger and dotted, until finally there is standing out from the dense web of mycelial filaments a perfect fruit-stalk and a fructiferous head, studded with short peg-like limbs on the free ends of which are the spores.

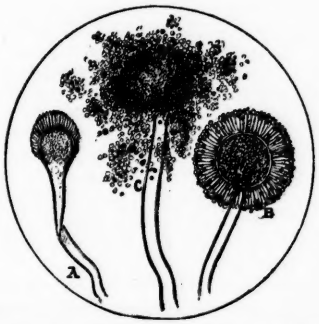
FIG. 2.



The passage of the bulbous stem to the more perfect fructiferous hyphen or fruit-stalk, as these parts are termed by mycologists, can be seen by referring to Fig. 2. All of these stages I have traced in specimens of the fungus removed from the human ear. In the fluid parts of the specimen, epithelium in small quantities may usually be seen, as in the upper left-hand corner of Fig. 2.

Very rapidly the perfect fruit-stalk is found in large numbers and in all stages of development, and the mycelial rootlets will be seen to be coarse and septate. All of

FIG. 3.



these later features may be seen in the same microscopic specimen. On one hand may be seen a well-formed though unripe hyphen or fruit-stalk, while in the centre of the field or on the other hand may be seen the ripe aerial fruit, from which the fully ripe spores drop literally in myriads. (Fig. 3, C.) The latter rapidly sprout and carry on the processes of development of their luxuriant progenitors.

The characteristic microscopic difference between the two varieties, *yellow* and *black*, is seen in the shape and size of the two parts, the *receptaculum* and *sterigmata*, forming the so-called "head."

In the *Aspergillus nigricans* (Fig. 3, B), the sporangia or heads are distinguished from those of the *A. flavescens* (Fig. 3, A) by the fact that in the first the sterigmata cover the receptaculum on all sides, while in the latter form the lower fifth or fourth of the receptaculum is entirely free from sporangia.*

So far as the size is concerned, it may be said that generally the head in the yellow variety is smaller than in the black aspergillus. The color is not a safe point of differential diagnosis; the names so far as they are based on coloring are almost arbitrary. The color of the various portions of any aspergillus may vary from palest yellow to a blackish or yellowish brown. The microscopic examination of a specimen of aspergillus is aided by subjecting the latter to a drop or two of liq. potassæ.

To sum up, then, it may be said that, in general there are found four distinct elements in specimens of aspergillus taken from the human ear:

1. The mycelial web, composed chiefly of the so-called tubules, filaments, or rootlets.
2. The fruit-stalk or hyphen, and
3. Its head.
4. The free spores.

The first, the filaments or tubular rootlets, are composed of sections, and are hence described as septate. The component cellules are from 0.090 mm. to 0.020 mm. in length.

The fertile hyphens or fruit-stalks vary in diameter, the latter being from 0.009 mm. to 0.013 mm.; their length is about 0.770 mm. These terminate in the so-called *receptaculum*, the placenta of Micheli, which has a diameter of 0.028 mm. (Robin).

On this grow the sterigmata and spores, which, together with the receptacle, form the so-called capital or head, 0.060 mm.

* Wreden, Archives of Ophthalmology and Otology, 1874.

in diameter, the third of the elements named above.

The spores are spherical, and measure 0.003 mm. in diameter. By careful fine adjustment of the lens, their surface is seen to be echinate. Some idea of the immense number of these spores in any case may be gained by a knowledge that Pacini, quoted by Robin, estimated that there are nineteen thousand spores on each capital or fruit-head.

Etiology.—It has usually been supposed that the dampness and squalor of the dwellings of the poor have been the fruitful causes of the growth of aspergillus in the ear. My experience has led me to a somewhat opposite conclusion, since I have observed more cases of aspergillus in the ears of those living in good hygienic surroundings, or even in luxury, than in the poorer classes. It appears, indeed, that aspergillus will grow in any ear which has been the seat of a morbid discharge of any kind. Even a scratch, as from the nail or a pin, which leaves behind it a minute quantity of blood, becomes a soil favorable to the growth of aspergillus. In fact, any dead animal or vegetable matter, especially if the latter be oleaginous, when left in the external auditory canal, will favor the growth of aspergillus. Hence the popular use of oil for various aural maladies is not uncommonly the direct cause of the growth of aspergillus in the ear.

Therefore, after any aural disease which has been attended with a morbid excretion, has entirely disappeared, the remnants of the hypersecretion should be washed out and the auditory canal left in a clean state. There is no evidence that the aspergillus grows on the natural ceruminous secretion of the auditory canal. It appears, indeed, that but for the presence of the cerumen in the canal, the ear might be invaded more frequently by the aspergillus, since the latter seeks a secluded spot for growing. One of the protective functions of cerumen is shown, I think, in the fact that in an ear the canal of which is sheathed with normal ear-wax, aspergillus is never found in a flourishing condition, while, in an ear invaded by aspergillus, cerumen is rarely if ever found in either a normal quantity or condition.

Treatment.—The treatment of this annoying disease, caused by the growth of aspergillus in the ear, and termed *Otomycosis aspergillina*, or *Myringomycosis aspergillina*, has already been suggested. It consists chiefly in the entire removal of the fungus and its spores. In this the use of the syringe is the main reliance; but this must be aided by the instillation into the ear of a fluid favorable to the destruction of a vegetable parasite. For the latter purpose rectified spirits of wine, either diluted with water or in full strength, should be employed several times daily, in quantities varying from fifteen to twenty drops. The ear should be carefully examined by means of the ear-mirror and speculum each day, and the treatment modified according to the stages of the disease. The least irritation of the ear, combined with the most effectual mechanical removal of the parasite, will give the most satisfaction to both patient and surgeon.

GASTRIC ULCER.

BY T. D. DAVIS, A.M., M.D.,

East End, Pittsburg, Pa.

THROUGH the kindness of Dr. J. M. Stevenson, I was present at the post-mortem examination and I am indebted to him for the notes of the following case:

Mrs. J. B., aged 55, widow; mother of six children; always healthy, except habitually constipated. Was called to see her on February 12, 1877. Suffering pain in stomach and flatulence after eating. Had several times vomited a thin, whitish water, which did not smell sour nor appear gluey or ropy. General health not affected. Prescribed for functional disease of stomach consequent on constipation.

February 19.—Reports herself relieved of all pain and vomiting, and feels well. Prescribed a glass of Carlsbad water every morning before breakfast, and care in diet.

July 30.—Had a slight chill, and now some fever. Has had several loose stools, and has voided mucus stained with blood, attended with griping pains and tenesmus. Prescribed for slight dysentery: magnesiæ sulph., acidi sulph. aromatici et tr. opii.

August 3.—Reports herself as feeling entirely well.

January 24, 1878.—Reported through a neighbor that she was again vomiting whitish water. Prescribed bismuth, pepsin, and opium.

January 26.—Reports no relief. On calling to see her, she reports her health as having been fairly good since the attack of dysentery. A good appetite, partaking of the same food as the rest of the family, except fruits and sour things, which swelled her stomach and caused pain; had had no return of vomiting

or pyrosis until the 1st of January. Within the last two weeks could take no solid food, on account of it causing pain. She appears as well nourished as in July, and has no cachexia to indicate organic disease of any nature. Tenderness on pressure over epigastrium. Bowels have not moved for four days. Suffers from thirst. Tongue heavily coated. Prescribed creasote, hydrocyanic acid, and morphia, and ordered enema of castor oil and turpentine.

January 27, 9 A. M.—Vomiting ceased since taking first dose of medicine; but bowels have not moved, although irritating enema was followed by a quart of soapsuds. Enema did not come away. Ordered eight ounces of English black draught, one-third to be taken every four hours, unless bowels moved.

January 27, evening.—Not so well. Enema retained. Abdomen slightly tympanitic. Thirst and nausea, but no vomiting. Expression anxious. Tongue heavily coated with a dirty-yellow fur. Pulse 90; temp. 100½°. Suspected obstruction of the bowel. Ordered hot linseed poultice to abdomen, and a pill of morph. sulph. et ext. belladonnæ āā gr. ¼, every four hours.

January 28.—Expresses herself as better; free from pain. Had slept several hours. General appearance the same. Tympanitis increased; and more general tenderness over abdomen. Introduced rectum tube, through which the enema slowly flowed away. Carried tube up about twenty inches, when it was arrested; through it, by means of a siphon syringe, injected five pints of warm water, when it began to flow out by side of the tube. Continued pills and poultice.

January 28, evening.—Condition much the same. Enema has not come away. Treatment continued.

January 29, morning.—She feels better. Slept four hours at a time. Pulse 90; temp. 100°. Abdominal distention slightly increased. Tenderness only slight. Great thirst. Bowels not moved. Evening—no change.

January 30, morning.—Feels better. Thinks she voided some flatus. Symptoms all seem more favorable, and indicate a yielding of the obstruction.

January 30, evening.—Patient moribund. They report that about 10 A. M. she asked to be raised up in bed, and drank some mutton broth, when she suddenly became faint, and went into a collapse. Died at 8 P.M.

Autopsy, 19 hours after death.—Body moderately emaciated; rigidity slight. Abdomen prominent and tympanitic. On section, evident peritonitis, but slight and recent. Lymph effused, and gluing more or less tightly intestines and abdominal contents. The small and large intestines to the termination of the transverse colon fully distended with gas, and from this point the descending colon and rectum were collapsed. The obstruction was apparently bands of lymph constricting walls of colon, but was hardly sufficient to have caused permanent constriction, as on pressure the gas in the upper intestine was forced through. On raising left lobe of liver, a mass of straw-colored lymph was seen, and in the middle of the lesser curvature of the stomach was noticed an oval opening about four lines in diameter, the peritoneal covering having evidently been destroyed for some time, and the contents of stomach having been prevented from escaping by its adhesions to left lobe of the liver. On opening stomach, an elliptical ulcer, about an inch and three-fourths in its long diameter, was found on lesser curvature, corresponding to external opening observed. The walls of ulcer were three-quarters of an inch thick, and adjacent coats of stomach infiltrated with cellular deposit. The stomach opposite ulcer was slightly congested, and the whole calibre of organ apparently diminished in size.

This case is markedly interesting from its negative history, having never arrested especially the attention of patient nor presented any symptoms from which a diagnosis could have been definitely determined. Again, it is interesting from the fact that the adhesions for a time prevented death, and at last caused it. Those forming a new floor prevented extravasation; but those gluing the coils of intestines together, and obstructing their function, caused accumulation of gas and distention of transverse colon and upper intestine, which, by alteration of the relation of the parts, caused the new adhesions of stomach and liver to give way on the patient being raised up.

TRANSLATIONS.

THE ACTIVE PRINCIPLE OF ERGOT.—Theodor Blumberg, in an inaugural dissertation published this year at Dorpat, alludes to previous researches into the active constituent of ergot. Recent investigation had shown this to be extracted by water, but to Dragendorff and Podwissotzky belongs the credit of having isolated the active principle, which is an acid. Earlier investigations had shown the existence in ergot of alkaloid substances. Wenzell found in 1865 two amorphous alkaloids, one of which he called *ecbolin*, the other *ergotin*. In 1875 Tanret described a crystalline alkaloid, to which he gave the name of *ergotinin*. Two years later, Podwissotzky found an alkaloid substance as an admixture of the *sclerythin*,

which was distinguished by its active physiological effect. This received the name of *picrosclerotin*. Blumberg has endeavored to ascertain whether the substances called by Wenzell ecbolin and ergotin are individuals, or whether they are one and the same alkaloid. In addition he has tried to find some method of obtaining picrosclerotin in larger quantity, and of isolating ergotinin. With regard to the first of these points, after considerable investigation, full details of which are given in his dissertation, Blumberg expresses the opinion that ergotin and ecbolin represent one and the same alkaloid. He also gives at length the methods employed to obtain picrosclerotin and ergotinin, both of which are very easily decomposed. X.

SEVERE NERVOUS AFFECTION RESULTING FROM A COLLECTION OF WORMS IN THE INTESTINAL CANAL.—Weiss of Neusiedel-am-See sends notes of the following case to the *Wiener Med. Presse*, 1878, No. 12. He was sent for to see a boy of six, whom he found in bed with closed eyes, occasional involuntary movements of the hands towards mouth and nose, the left angle of the mouth somewhat retracted. His face was flushed; the body-temperature increased; sordes upon the lips; the tongue dry and fissured; pupils decidedly dilated; pulse small and frequent; the heart beating violently; breathing short and quick, and occasionally interrupted by a short cough. There were no physical signs of lung-trouble. The abdomen was distended and meteoric; careful palpation showed a somewhat hard nut-sized swelling in the region of the great intestine. From the beginning of the attack there had been more or less constipation, which had been complete during the last four days.

The history was as follows. The boy, previously perfectly healthy, had been ailing for some six or seven weeks. He had lost appetite; had become feverish; changed color from a dusky flush to deadly pale many times through the day; talked in his sleep; complained of pain in the abdomen and head; had an unusually staring look from his eyes. In addition he had suffered nausea without vomiting; coughed occasionally, and picked his nose and mouth. For twenty-two days he had not left his bed. The physicians who had attended the case had taken it for gastric fever, with hydrocephalus, teething, typhoid, etc. Weiss, however, in his account of the case, observes that none of these affections last so long as six to seven weeks. The various symptoms in his opinion pointed to a hyperæsthesia, a reflex excitement of the nervous system, the cause of which in so young a child must be traumatic, mechanical, or parasitic. The decided swelling in the intestine indicated a helminthic trouble in that region; and Weiss, on questioning the child's mother more closely, found that for some months previously he had been ailing on and off, had had "flashes of heat," was occasionally delirious, and sometimes tossed all night on his bed. On learning further that a Viennese professor had cured him of a somewhat similar trouble some time before by the administration of a "laxative tea," Weiss made up his mind as to the proper course to pursue, and ordered at once a mixture containing santonin, together with an "anthelminthic plaster" to the stomach externally. A few hours later the child waked from his stupor, and expressed the desire to empty his bowels. Seven passages followed in the course of a few hours, partly composed of compact fæces, partly of a brownish fetid fluid, and containing numerous individual worms of the variety *oxyuris vermicularis*. Finally, two whitish balls the size of a pigeon's egg were discharged, composed of mucus compacting together countless worms, which, by their continual wriggling, made the masses move in the fluid in which they floated like living things. The child from this time recovered rapidly, becoming conscious at once, and quite well in a few weeks. X.

OXIDE OF LEAD IN THE SUBNITRATE OF BISMUTH OF THE SHOPS.—M. Carnot, in a note read before the *Académie des Sciences*, and published in the *Bull. Gén. de Thérap.*, No. 7, 1878, states that in a number of experiments, in which he had used salts of bismuth as reagents, he had found oxide of lead present. This was particularly the case in certain subnitrates of commerce prepared for pharmaceutical use. Wishing to ascertain the extent to which this adulteration prevails, and the proportion of oxide of lead present in a given case, Carnot procured specimens of the subnitrate of bismuth from different well-known establishments, and analyzed them. All presented traces of lead, and some contained a quite notable proportion; so that if the subnitrate were given in doses of from two

to five drachms a day, from one and a half to three grains of oxide of lead would be taken at the same time.

In the same number of the *Bulletin*, M. Bouchut discusses the question, "Is impure subnitrate of bismuth, containing traces of lead, dangerous?" He calls attention to the avidity with which the Parisian press, always on the lookout for a sensation, seizes on such statements as that of Dr. Carnot, and asserts that the proportion of lead mentioned by this gentleman is not sufficient to injure those taking bismuth. Bouchut has never observed any symptoms of lead-poisoning in children, to whom he has given bismuth in amounts as high as 3 to 4 grammes a day (45 to 60 grains), or adults, to whom it has been administered to the amount of 6 to 8 grammes (1½ to 2 drachms). Others have given as much as 30 grammes (nearly one ounce) daily without injury. Bouchut goes so far as to say that the oxide of lead in reality aids the effect of the subnitrate of bismuth, and says that it is like propylamin, which when it was first used was impure and ammoniacal and was found useful in rheumatism; when, however, the pharmaceutists got to making it perfectly pure, it no longer did any good, and was abandoned. (The impurity of nitrate of bismuth which gives most anxiety is arsenic, to which, however, Bouchut and Carnot make no allusion.—TRANS.) X.

ACUTE ATROPHY OF THE LIVER IN AN INFANT.—Prof. H. Senator (*Wien. Med. Presse*, 1878, No. 17) received into the hospital an infant of eight months, whose mother gave the following history. Five weeks previously, the child had fallen on its head, and remained unconscious for a time, but had soon recovered and had remained well for three weeks. At the end of that time the stools became pale and discolored, and a week later the infant was feverish, became yellow, and vomited; the stools afterwards being yellow or green, and not particularly fluid. On examination the child appeared well nourished, decidedly icteric, very restless. The abdomen was prominent, and the liver was decidedly enlarged, dulness beginning in the right mammillary line, at the fourth intercostal space, and reaching six centimetres beyond the border of the ribs. To the left, dulness extended four centimetres beyond the middle line. The surface of the liver was smooth. The spleen also was decidedly enlarged, but not tender. Pulse, 100–112; temperature, 104.2° F. In the course of the next day or two but little change took place in the patient's condition. She drank frequently and greedily, dozed, and moaned and whispered without crying aloud. Retching, but no vomiting; stools nearly normal. Treatment, cold compresses to the abdomen and head, and, as the temperature continued high, hypodermic injections of one-sixth of a grain of chloride of quinine. The infant was nourished upon fresh cow's milk alone. Three days later she was somewhat collapsed, pale, but decidedly icteric; swallowing seemed difficult; liver and spleen were still palpable and unchanged, or slightly less prominent; urine could not be collected, it stained the sheets darkly. Four days after admission to the hospital the child became entirely collapsed, the liver was markedly lessened in size, and in the evening death supervened. The diagnosis of the case during life had presented some difficulty, especially in connection with the history of a fall. Symptoms of abscess of the liver, of catarrhal icterus, of icterus gravis, and of phosphorus poisoning presented themselves. The rapid decrease in size of the liver, during the few days while the patient remained under observation, decided the diagnosis in favor of acute atrophy. Post-mortem examination showed the liver twelve centimetres long, nine wide, and three thick. Its surface was brownish-red, and showed numerous yellow patches, some as large as a dime, chiefly on the left lobe, raised somewhat above the general surface. Section showed the same appearances. The gall-bladder contained a small quantity of green mucus. The spleen was enlarged, smooth, not containing much blood, follicles prominent. Kidneys somewhat enlarged, fatty. Bladder empty. Other organs, except the lungs, which were slightly atelectatic at the base, healthy. Microscopic examination showed fatty degeneration and atrophy of the liver-cells in the yellow portions, while the rest of the liver appeared healthy. The case, therefore, was one of those unusual instances in which atrophy is preceded by enlargement of the liver with retention of bile, cases which, if atrophy is not detected, are called "typhoid icterus." Senator concludes the report of the case with bibliographical references. X.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JUNE 22, 1878.

EDITORIAL.

MEDICAL EDUCATION.

THE Pennsylvania State Medical Society passed, at the late meeting in Pittsburg, a series of resolutions which it seems possible to enforce, and which strike at one of the tap-roots of the wretched system of medical education, hitherto so prevalent. One resolution *recommends* the members of the State Medical Society to send their students to those colleges which give a three years' course of study. This resolution carries, of course, great moral force, but was not intended to do more. It is otherwise with the one which *directs* the various county medical societies to appoint examining committees, before whom any person desirous of studying medicine may appear, in order to prove the possession of a sufficient English education, and forbids any member to receive a student who has not a proper certificate from such committee.

It appears that such a system has been in vogue in Allegheny County for many years, and has not only been found to have no serious practical objections, but to be actively powerful for good. It is asserted to have produced a very great improvement in the average culture of medical students. The societies of Mercer County in the west and of Delaware County in the east of the State have recently adopted a similar procedure, and appear to be in earnest in enforcing obedience. It now becomes the duty of every county society to do likewise; and we hope that some one—and who better than the committee that suggested the resolution lately passed?—will watch the various county societies, and report at the meeting of the State Society next year in Chester what counties have and what have not complied with the instructions of the State. A steady pressure of opinion kept up for a few years would drive most delinquents into line, and the refusal to allow representation of an indifferent or actively refractory county society would soon coerce the small remainder.

HIGHER SCHOOL FOR THE BLIND.

IF our information be correct, there are in England two private schools for the blind, in which is given a training in the higher branches parallel to that afforded more fortunate "seeing people" in such schools as Eton. In this country the difficulties in the way of mind-cultivation for those having no eyesight have been almost insuperable. The only book of the character used in universities which has been printed in raised type, so far as we know, is a portion of the Æneid, and no special schools for the higher instruction of the blind have hitherto existed on this continent. Mr. John F. Maher, who has struggled over all obstacles and graduated in the scientific department of the University of Pennsylvania, having had several years' experience in preparing "seeing persons" for college, proposes to establish an academy for the education of the blind. He has the endorsement of the University authorities, and appears to be eminently fitted for this special task. We commend his undertaking as meeting a want which perhaps is not very common, but which when it exists is very pressing. Communications sent to the University of Pennsylvania, or to 1319 Chestnut Street, Philadelphia, will reach Mr. Maher.

ARSENIC AS A PREVENTIVE OF BROMIC ACNE.—Dr. Bartholow points out that bromic acne may be, in part at least, prevented by the conjoined administration of arsenic, in the form of Fowler's solution, three to five minims thrice daily.

CORRESPONDENCE.

THE AMERICAN MEDICAL ASSOCIATION.

THE twenty-ninth annual session of the American Medical Association was held at Buffalo, New York, June 4 to 7 inclusive. About six hundred delegates and members by invitation were in attendance, representing all sections of the country. Several delegates were also present from the Canada Medical Association. The interest of the meetings was well sustained; a full attendance in the Sections was secured by the presentation of papers of unusual merit, and the discussions were spirited and instructive. No question of paramount importance, such as the capture of the Pharmacopœia, being introduced to serve as a bone of contention, the routine business was transacted with a quiet dignity in strong contrast with some of the turbulent scenes witnessed, within the memory of many of the original members, at the early meetings of the body. The harmony prevailing in the deliberations was well supplemented by the pleasant intercourse in the several entertainments and receptions, which were generally enjoyed. The credit of the success of this meeting rests largely with the Committee of Arrangements, of which Prof. T. F. Rochester was chairman, and with the Committee of Entertainment, whose chairman was Prof. Jas. P. White.

GENERAL SESSIONS.

Prof. T. G. Richardson, the president of the Association, in his annual address dwelt at some length upon the need of elevating the standard for graduation in our medical schools, and suggested some useful reforms in medical teaching and in State medicine. He referred in terms of commendation and pride to the recent action of the Medical Department of the University of Pennsylvania in adopting a graded course and extending the period of study, in company with Harvard and the Chicago Medical School. He urged the individual members to aid the efforts of the Association in the cause of higher medical education, thus enabling it to exert a more positive and powerful influence in favor of improved methods and a more elevated standard, until a healthy public professional opinion upon the subject should bring so strong a pressure to bear upon the other medical colleges as to compel them all to enter into the current of reformation.

In order to further this plan, and bring the American Medical Association into intimate relationship with the great mass of the profession, the necessity of a more thorough organization of the State, County, and District Societies was insisted upon.

The incorporation of the American Medical Association was strongly advocated. He further suggested that original investigation in the Association should be encouraged by the annual offer of prizes, and detailed a scheme by which this might be accomplished.

The benefits of State medicine were dwelt upon, and the imperfect manner in which hygiene and forensic medicine are now taught in our colleges, condemned. In this connection, the organization was advised of a National Council of Health, to be composed of members from every State in the Union, whose presiding officer should be the peer of the Secretaries of State, War, and Finance. The establishment of sanitary police, the regulation of quarantine, and the suggestions for sanitary legislation, would be a few of its functions. A dissemination of knowledge of hygienic law in the community is much needed: the hope of progress in State Medicine lies in the education of the people.

The recommendations in the address were referred to a committee composed of the president and his four immediate predecessors, to report at the next meeting.

A paper by Dr. E. Seguin, of New York, on the "Intervention of Physicians in Education," referred to the almost universal violation of hygienic law in the building and government of the public schools, and urged that greater interest should be taken in the matter by physicians. This topic, after full discussion in the Section on State Medicine, was deemed of such importance that Dr. Frank H. Hamilton, of New York, was requested to present it before the general session. This done, the following was adopted:

"*Resolved*, That, in the opinion of this Association, medical men ought to have a voice in the construction and location of public-school buildings, in the question as to the age at which children should be admitted, the hours of study, and the general management of these institutions. And to this end it is believed to be necessary that one or more intelligent physicians should be placed upon boards of education, boards of trustees, and upon other similar boards having the control of public education and schools."

In the report of the delegation to the International Medical Congress at Geneva the adoption of uniform methods of recording the results of observation and experiment was urged.

The conclusions of the Congress were summed up by Dr. E. Seguin, the reporter, as follows:

"For physicians and surgeons, the principle accepted by the Congress is a gradual international uniformity of their nomenclatures, scales, measures, calibres of instruments, of their records of private and hospital practice, of physiological experiments, of medical climatology, barometry, thermometry, statistics, etc.

"In pharmacy the Congress of Geneva has accepted the conclusions voted at St. Peters-

burg and Brussels, as presented by Professors Gille and Matsen:

"1st. The adoption of a universal pharmacopœia, to be written in Latin.

"2d. The decimal system for weights and measures, and the centigrade scale for temperatures.

"3d. A uniform nomenclature (probably that of Berzelius).

"4th. The chemical preparations to be of determined strength and purity; and the pure drugs to be of essayed strength, if possible.

"5th. The Galenic preparations made as simple as possible, and described according to a uniform plan.

"6th. The other pharmaceutical preparations to be made uniform,—that is, those which are powerful, like tinctura opii, aconite, nux vomica, hashisch, podophyllin, elaterium, etc.

"7th. Physicians to be left free and responsible for the non-officinal ingredients and doses of their magistral prescriptions.

"At its last meeting, the Congress of Geneva nominated a commission charged to bring these matters to a practical maturity for acceptance by the profession at large, and to the sanction of the next International Medical Congress."

The report was signed by Marion Sims, Thomas Drysdale, and Edward Seguin, delegates to the Congress, appointed at the last meeting to represent the American Medical Association. By a resolution this commission was continued to present a report upon medical uniformity in Europe at the next meeting.

The committee for the organization of State boards of health was also continued. The Secretary reported that nineteen have thus far been established. The following is from the President's address:

"State Boards of Health have been established in the following nineteen of the thirty-nine States, and in the District of Columbia, at the dates following, viz.:

Alabama	1875	Massachusetts	1869
California	1870	Michigan	1873
Colorado	1876	Minnesota	1872
Connecticut	1876	Mississippi	1877
District of Columbia	1871	New Jersey	1877
Georgia	1875	North Carolina	1877
Illinois	1877	Rhode Island	1878
Kentucky	1878	Tennessee	1877
Louisiana	1870	Virginia	1871
Maryland	1874	Wisconsin	1876

A communication was received from the Pennsylvania State Medical Society, containing resolutions recommending the adoption of the metric system.

The Committee on Necrology presenting a voluminous report, a resolution was adopted instructing the committee to restrict the notices hereafter to members of the Society in good standing at the time of death.

Upon the recommendation of the Section on Medical Jurisprudence, Chemistry, and Psychology, a series of resolutions was passed, asserting the necessity of judicious personal restraint in the treatment of insanity, acknowledging the natural right of such cases to home treatment, and declaring that the restraint incident thereto is not a violation of legal rights or of personal liberty, but such restraint should always be subject to State surveillance and limitation.

Upon motion of Dr. Scott, of Ohio, a new Section was created for Ophthalmology, Otology, and Laryngology, Dr. Herman Knapp, of New York, being appointed chairman, and Dr. Scott secretary. It was also proposed, and laid over under the rule to the next meeting, to institute Sections on Neurology and Electrology; and on Diseases of the Genito-Urinary Organs, including Dermatology and Syphilis.

On motion of Dr. Bell, of New York, the following was also proposed:

"*Resolved*, That Section IV., on Medical Jurisprudence and Psychology, and Section V., on State Medicine and Public Hygiene, be consolidated into one section as Section IV."

Being an amendment, action was deferred until next year.

A protest was preferred against a delegate from Michigan, charging him with assisting in the instruction of homœopathic students. The Judicial Council failing to find any specific provision to forbid this in the Code, a resolution was passed, requesting the preparation of an amendment which should in future prevent this violation of its spirit. Such an amendment was subsequently presented, and laid over until next meeting. Two delegates from the Ann Arbor Society were admitted.

The president announced the appointment of the following delegates:

To European Medical Societies.—Drs. Sims, Drysdale, Seguin, Daly, Halberstadt, Levis, and W. H. Pancoast.

To Canada Medical Association.—Drs. Brodie, Todd, E. N. Brush, and W. Clarke.

The Committee on Prize Essays recommended that both prizes should be awarded for one essay, upon the surgical relations of the carotid, subclavian, and innominate arteries, presented by Dr. John A. Wyeth, of New York. The decision of the committee was received with applause.

Resolutions were offered by Dr. J. M. Toner in memoriam of the late Prof. Henry, which were unanimously adopted.

The addresses upon the progress of medicine were delivered in the general session as follows:

Prof. Henry H. Smith, of Philadelphia, chairman of the Section on Surgery and Anatomy, selected for his theme "Certain Points in the Pathology of the Bones, especially Tubercle." And in this connection he considered the influence of the bone-marrow on the constitution of the blood.

This paper was concluded in the Section on Surgery.

Dr. E. W. Jenks, of Detroit, of the Section on Obstetrics, etc., discussed the "Causes of Sudden Death in Puerperal Women."

Dr. A. L. Loomis, of New York, of the Section on Practical Medicine, reviewed the advance in his department, and particularly referred to the climatic treatment of pulmonary phthisis and the establishment of sanitaria for consumptives; and recommended the general utilization of our mineral springs.

In order to consider these recommendations, a committee was appointed, consisting of Drs. H. I. Bowditch, of Harvard; A. N. Bell, of New York; J. L. Cabell, of Virginia; S. E. Chaillé, of Louisiana; and Charles Dennison, of Colorado.

Prof. J. L. Cabell, of the University of Virginia, chairman of the Section on State Medicine, delivered a most interesting address upon State Medicine and Public Hygiene, discussing the methods of preventing the spread of contagious diseases, and the theory of a *contagium vivum*.

The chairman of the Section on Medical Jurisprudence, Chemistry, and Psychology, Dr. Walter Kempster, of Oshkosh, Wisconsin, in his address, favored the theory of the localization of impressions in the brain, and stated that he had always found definite changes in cases of general paralysis.

Prof. Jas. P. White, of Buffalo, offered the following:

"*Resolved*, That a committee of five be appointed to confer with General Myer upon the subject of making observations as to the existence of ozone in various localities; and to take such other steps and measures in the matter as may be necessary for the success of the object."

This was adopted, and the committee appointed by the President consisted of N. S. Davis, Illinois; J. S. Billings, U.S.A.; W. N. Giddings, South Carolina; J. M. Toner, Washington; and S. M. Bemis, Louisiana.

A few female delegates were present.

Report of Committee on Nominations.

The Committee on Nominations presented the following report, which was unanimously adopted:

President.—Theophilus Parvin, M.D., of Indianapolis.

Vice-Presidents.—A. J. Fuller, of Maine; W. F. Westmoreland, of Georgia; John Morris, M.D., of Maryland; John H. Murphy, M.D., of Minnesota.

Treasurer.—Richard J. Dunglison, M.D., of Philadelphia.

Librarian.—Wm. Lee, M.D., of District of Columbia.

Committee on Library.—John Eliot, M.D., of District of Columbia.

Committee of Arrangements.—J. P. Logan, M.D., Chairman.

Committee on Necrology.—J. M. Toner, M.D., of Washington, Chairman.

Next place of meeting, Atlanta, Georgia. Time of meeting, the first Tuesday in May, 1879.

THE SECTIONS.

The papers read before the Sections were, with very few exceptions, contributions of value to the special departments. It is impossible in a condensed report to do justice to all, but some of them were of such unusual merit as to deserve to be mentioned as special features of the session. Among these we notice the paper of Dr. Theophilus Parvin, read before the Section on Obstetrics and Diseases of Women and Children, entitled "Ovotomy." In this paper the merits of laparo-elytrotomy, the operation recommended by Dr. Thomas, of New York, for the relief of cases at term with narrow pelves, were thoroughly discussed, and, after comparing it with the results obtained by Cæsarean section, a preference was expressed for the latter operation. The paper gave evidence of much research, and contained an exhaustive bibliography of the subject, for which the lecturer had freely used the library of the Surgeon-General's office at Washington.

Dr. Henry H. Smith concluded his address before the session by a practical demonstration, freely illustrated by diagrams, of certain points in the pathology of the bones, especially tubercle, in which he defended the essentially tubercular nature of Pott's disease and coxalgia.

"The Study of an Epidemic of Diphtheria which prevailed at Ferrisburg (adjacent to Vergennes), Vermont, during the summer of 1877," by Prof. Henry I. Bowditch, showed the manner in which a medical philosopher spent a summer vacation. Hearing of an epidemic of diphtheria near Lake Champlain, where he was staying, Prof. Bowditch proceeded to the spot and studied its history and course with such diligence that he was enabled to present what was pronounced in the discussion to be one of the most complete and satisfactory studies of an epidemic of diphtheria that has ever been recorded. He considered that the facts warrant the treatment of a case—or an epidemic—of diphtheria with the same regard for the danger of inoculation that should be exercised in the treatment of scarlet fever or smallpox, although it is contagious to a less degree. He regarded the occurrence of diphtheria in the course of croup as an accident. Diphtheria cannot be properly termed, at any time in its history, a purely local disease.

Among the practical suggestions we notice particularly "Tracheotomy without Tubes," by Dr. Henry A. Martin, of Boston. He regards tubes as entirely useless, and performs the operation as follows. After making the incision in the usual manner, down to and through the trachea, he introduces a central stitch in

each edge of the wound through the tissues, including the trachea; this is loosely tied so as to form a loop, through which a long strip of adhesive plaster is passed, upon which very slight traction is made, the plaster being crossed at the back of the neck. Unless the traction be too strong, the loops will not cut through for two or three weeks; but he had generally been able to remove them in one week. The wound heals readily. He reported nine cases of this operation, which had been found perfectly satisfactory in the hands of all who had tried it. Attention to the after-treatment, by properly-regulated temperature and moisture, was insisted upon.

Dr. Ephraim Cutter, of Boston, made a verbal report upon the treatment of uterine fibroids by electrolysis.* He uses strong bayonet-shaped needles with firm handles. The poles are thrust into the tumor through the abdominal wall. He had, with Dr. Gilman Kimball, of Lowell, used this method in more than fifty cases, and highly recommended the operation. Mild constant currents should only be used, the sittings to last but from five to fifteen minutes. The operation is not devoid of danger, and rest in bed for several days should be strictly enjoined. He had lost one patient from getting out of bed on the second day.

Dr. John C. Irish presented a report of "Fifteen Cases of Extirpation of the Uterus for Fibroid Growths," in the practice of Dr. Burnham of Lowell, with over twenty per cent. of recoveries.

Dr. Storer regarded the procedure as one of necessity and not of election, but had been able to save two patients out of seven.

Dr. Engleman, of St. Louis, reviewed "Battey's Operation for Extirpation of the Ovaries," and pronounced the vaginal operation unsatisfactory, imperfect, and more dangerous than the ordinary abdominal section for ovariotomy.

In connection with the prevailing tendency to the practice of specialties, the paper of Dr. Levi F. Warren upon the "Connection of the Hepatic Function with Uterine Hyperæmias, Fluxions, Congestions, and Inflammations" was very suggestive. It contained a report of a number of cases of uterine complaints due to general conditions, which were relieved by appropriate treatment without any local applications. The paper was well received as a protest against the tendency to the exclusive practice of specialism.

Dr. John H. Packard read a paper on "Fractures near the Wrist Joint," in which he stated that he had never seen a fracture that corresponded with Dr. Barton's classical description. The comminution, which is secondary, always involves the posterior part of the lower fragment, and is produced by the driving of the upper into the lower fragment after its displacement backwards. Treatment is by reduction, retention in position, early passive motion, and freedom of hand.

Dr. Moore, of Rochester, opposed the views of Dr. Packard.

Dr. Robert Burns, of Frankford, Philadelphia, read the history of a case of conservative surgery, where there was a fracture of the humerus and forearm with protrusion and laceration, which recovered, with a useful arm, by means of the wire-basket splint and carbolized lotions.

The identity of certain cases of so-called struma and inherited syphilis was insisted upon in a paper presented by Horatio R. Storer, of Newport, R.I., on the "Frequently Gynæcological Origin of Inherited Forms of Strumous Disease, and the Consequent Indications for Treatment."

Several interesting specimens were exhibited. Dr. Thomas F. Rochester presented a specimen of separation of the continuity of the ileum with spontaneous occlusion of its divided extremities. The patient died with symptoms of intussusception. The closure was complete.

Dr. Julius F. Miner showed a specimen of a thyroid growth, in the removal of which the entire gland was supposed to have been extirpated. A patient was also presented in whom a large goitre was said, by Dr. C. N. Palmer, of New York, to have been cured by the subcutaneous injection of thirty minims of extract of ergot. Drs. Blackwood and O'Hara, of Philadelphia, reported similar cases.

In the general session, Dr. Sayre, of New York, requested and obtained permission to have the order of business suspended, in order that the secretary might record his dissent from the opinion expressed in a resolution passed at the last meeting in regard to shortening after fracture. In the afternoon the following preamble and resolution was adopted by the Section on Surgery, on motion of Dr. Gunn, of Chicago:

"*Whereas*, This Section having expressed an opinion upon the results of fractures of long bones, and,

"*Whereas*, In general convention a member has asked and been accorded the privilege of recording his protesting vote; therefore

"*Resolved*, That this Section reaffirms its opinion that shortening, in cases of fractures of the long bones, is the rule in practice, regardless of any of the means of treatment now in use."

Dr. Munson, of New York, exhibited an improved "quill" for perineorraphy. Dr. Marcy, of Cambridge, presented a flexible uterine sound termed an "indicator," from the fact that when one end is bent the other curves equally in the opposite direction by the action of a spring in the interior, thus showing the direction and amount of flexion

* For the complete report, see American Journal of the Medical Sciences for July, 1878.

of the uterine canal immediately upon its introduction. (Made by Codman & Shurtleff, Boston.)

THE ENTERTAINMENTS.

A most interesting lecture on the "Morphology of the Blood in Syphilis," illustrated by the camera, was given in the evening by Dr. Ephraim Cutter, of Boston. While not entirely endorsing Lostorfer's views (which were partly erroneous from the fact that his conclusions had been drawn from old specimens), Dr. Cutter was convinced that in the fresh blood of syphilitic patients, certain cryptogamic forms exist which are characteristic of the disease. The white blood-corpuscle is enlarged, and contains new features which are also recognized as structures of low organic life. These were beautifully shown in the micro-photographs exhibited on the screen.

The social entertainments were very successful. Receptions were given by the Buffalo Club; the Academies of Fine Arts and of Natural Sciences were thrown open, and a reception was held at the house of Prof. James P. White. Previous to Dr. White's reception, a lawn-party was given by Mr. B. C. Rumsey, which was an agreeable surprise. The residence was surrounded by large well-shaded grounds, with winding paths, terraces, summer-houses, a fountain, and an artificial lake. At nightfall the grounds were illuminated by hundreds of Chinese lanterns of different devices, and colored lights were burned at intervals with charming effect.

On the afternoon of the last day of the session an excursion to Niagara Falls was given by the profession of Erie County and a few prominent citizens, *via* the Canada Southern Railroad. A grand supper at the International Hotel at the Falls concluded the entertainment, after which the members separated, each going to his own place, but carrying with him a lasting impression of the attractions of the "Queen City of the Lakes," and the hospitality of her citizens. W.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, FEBRUARY 28, 1878.

THE PRESIDENT, Dr. H. LENOX HODGE, in the chair.

Discussion of the specimens presented by Dr. E. O. SHAKESPEARE, *February* 14, 1878.

DR. GUITÉRAS said he should have presented at the last meeting a specimen of thrombosis of the pulmonary artery, with small areas of catarrhal pneumonia. The subject is sufficiently related to that of the present discussion to be considered to-night. A middle-aged woman was admitted to the wards of the Philadelphia Hospital suffering with capillary bronchitis. Careful percussion demonstrated the existence of small patches of consolidation at the right apex. She died of apnœa three or four days later. The symptoms of bronchial obstruction had diminished, but the pulse was very feeble and frequent. She did not die of œdema of the lungs. The autopsy revealed the existence of the lesions diagnosed. The lobules consolidated were four or five, and scattered. The catarrhal consolidation was very recent. The right heart was distended with blood. The clot was not large, but when traced into the branches of the pulmonary artery it lost its chicken-fat appearance, and became of marbled-gray and black color, and rotten and friable. He discovered no disease of the walls of the pulmonary artery.

Dr. Alibut has recently advanced a very ingenious theory to explain the symptoms of uræmic asthma. He suggests a state of spasm of the pulmonary arterial system; so that the dyspnœa, he thinks, is due to the failure of the blood to reach the air, and not to any obstruction to the movements of the latter. Dr. G. suggested the adaptation of this theory to his case, and he called attention to this point, because it is very possible that this condition of thrombosis and consequent dyspnœa resulting from a deficient supply of blood to the air-vesicles is frequently overlooked.

On the same day of this post-mortem he was called in consultation to a case of membranous croup. After many hours of dyspnœa and cyanosis, the child died, without one single râle of œdema of the lung making its appearance. He should say also that there were no evidences of blood-poisoning; he meant no diphtheria.

In regard to the specimens before the Society, he desired to call attention to their significance, as they illustrate beautifully the two forms of emboli that Cohnheim has studied so well. In the one case we have the mechanical embolus, with hemorrhagic infarctus of the area supplied by the vessel; in the other we have the infectious embolus, with abscess of the surrounding tissue. There are few observations in pathology less subject to exceptions than this: that the mechanical obstruction of a pulmonary artery never causes suppuration, and seldom gangrene of the parts beyond, and that an infectious plug will set up a suppurative process; in the latter case, from the nature of the process, a more or less spherical accumulation of pus is the result; in the other, a wedge-shaped infarctus.

It is a curious fact that a stoppage of the flow of blood in an artery should cause hyperæmia and hemorrhage of the parts beyond. Ludwig suggests that the obstruction is not complete, and that the slowing of the circulation in the capillaries causes the blood-corpuscles to aggregate, so that a terminal obstruction is produced; the further ingress of

blood, in spite of the embolus, increases the tension, and a rupture supervenes. Cohnheim thinks that the congestion is due to a back flow of blood from the pulmonary veins, the pressure in the arterial side having been reduced to a minimum by the embolus. Cohnheim objects to introducing the anastomoses with the bronchial arteries as an element in this hemorrhagic process. This is a theory that had occurred to him (Dr. G.), and he was not willing to give it up. The anastomoses between these two sets of vessels are terminal in position and capillary in character. It is upon the latter fact, viz., their size, that Cohnheim establishes his objection. He (Dr. G.) failed to see sufficient tension in the backward flow to rupture the vessels and cause the hemorrhage. The blood in the bronchial arteries is under greater tension, which probably widens the channels to establish a collateral circulation in the affected part. It must be remembered also that this blood forced into these vessels is not the blood that they are adapted for; it is arterial blood; hence another source of hemorrhage, that will remind us of the numerous hemorrhagic spots found in the lung after transfusion of arterial blood.

Dr. G. said that no one who had had opportunity of observing cases of mechanical emboli could fail to observe the absence of suppuration in these cases, no matter what the condition of the patient was; often, in fact, very much broken down in the last stages of cardiac cachexia. The interesting fact mentioned by Dr. Norris, of the early conical shape of infectious infarctions, only proved that the plug acted mechanically before exerting any specific influence. In such cases Cohnheim even maintains that there must have been two emboli. He could not say that the dyspnœa in his case was all due to the thrombosis; but the symptoms of bronchitis (physical signs) had improved, and the autopsy did not show much obstruction in the tubes. The patches of catarrhal pneumonia were so small that they were undetected at first.

He agreed with Dr. Shakespeare that very few cases of obstruction of the pulmonary artery had been studied in the light of the modern ideas about tuberculosis. In fact, it is difficult to determine from the accounts of authors whether the phthisis observed in such cases is tubercular or not. He believed that there was no doubt as to the fact that ischæmia favored the development of those slow processes that led to destruction of pulmonary tissue. Hence their frequency at the apices of the lung, and the truth of the theory advanced by Peter, viz., that phthisis is rare in disease of the left heart, because, the dependent portions of the lung being in a state of constant engorgement and comparatively inactive, the upper portions are, of course, the seat of a compensatory activity.

Dr. NANCREDE remarked, with regard to the shape of the infarction, that he thought we looked too much in a pathological way —or, if he might term it so, in too mechanical a way—at this subject. In the present cases he thought that we could see triangular infarcts in the pyæmic case and rounded ones in the embolic one, thus showing that the rule was not at all an absolute one. The consideration of the systemic condition was too much overlooked. The present specimens, it seemed to him, bore out this view. In the pyæmic one we have a man suffering from several severe injuries,—one of them of the skull and brain,—with suppuration lasting several weeks, his system broken down and prone to suppurative trouble. Now, inflict any kind of injury upon his lung, and suppuration would be likely to ensue. If any surgeon were unwise enough to amputate a limb during the course of pyæmia, would he have any healing occurring? Quite the reverse; he would only encounter unhealthy suppuration. Again, in the embolic specimen we have a case in perfect health, comparatively speaking, whose lungs are suddenly extensively plugged. What is the result here? Manifestly such an interference with the functions of organs essential to life that death results before suppuration has had time to occur. Dr. N. believed that if time were allowed, mechanical emboli would cause suppuration in certain cases. The reason it is not seen is that where extensive enough to allow us a post-mortem examination, death is rapidly produced by overwhelming injury to a vital organ. He had risen with diffidence to express opinions in any degree opposed to the authorities quoted, but he must protest against the one-sided, mechanical, and as he thought, in consequence, unscientific way in which the problems of disease were nowadays treated.

Dr. W. F. NORRIS said, in reference to the form of the abscesses, that it had been his lot to see many such cases while in the army, and he thought the shape of the patches was due to the stage of the disease when the post-mortem was made. The majority are found near the surface of the lung, and in the early stages are wedge-shaped, with the base presenting outwards. It is usual to find in the same organ several such patches in different stages of development, and there is a tendency to become round when suppuration takes place. He had, however, seen infarctions which had already the greenish-yellow hue of pus, and were almost ready to lose their solid consistence, still retaining their pyramidal form.

Dr. HENRY thought that, in attempting to account for the presence or absence of suppuration in cases of embolic pneumonia, constitutional conditions were not to be excluded. The influence of cardiac disease upon inflammatory processes in the lungs is universally

admitted, but it is perhaps not so well known that this influence may extend to other processes. According to Lebert, there is in congenital stenosis of the pulmonary artery a remarkable predisposition to the deposit of miliary tubercle in the lung; while in venous stasis dependent upon mitral disease, miliary tubercle is so rare that this form of cardiac disease is regarded by some as inimical to its deposit. If, therefore, cardiac disease can so powerfully and variously influence morbid processes in the lung, it is highly probable that other conditions of the system affecting the circulation may have similar though less powerful effects.

Dr. HENRY remarked that if Dr. Guitéras intended to signify that there was an *arterial* anastomosis between the bronchial and pulmonary arteries on the distal side of the points of infarction, he could not agree with him in the idea that such an anastomosis would favor the morbid process. In his opinion it would have precisely the contrary effect, by favoring the return venous circulation. Cohnheim's theory of infarction applies exclusively to *terminal* arteries, that is, to an artery, or rather to a portion of an artery, beyond which there is nothing but capillary vessels.

Dr. SHAKESPEARE thought with Dr. Guitéras that the explanation of sudden dyspnœa occurring in other states besides that existing in so-called uræmic asthma might not infrequently be found in an obstruction, embolic or otherwise, to the free course of the blood in the branches of the pulmonary arteries, rather than in an impediment to the air in its passages,—a failure of the required quantity of blood to reach the air at the proper place, rather than the curtailment of a necessary supply of air.

He could not, however, agree with Dr. Guitéras in the support which the latter had given to the opinion advanced and defended by Rindfleisch, that the bronchial artery through its sparse capillary anastomosis with the small branches of the pulmonary artery furnishes the blood which engorges the area of infarction. He was constrained to think that the objections which Cohnheim had raised against this hypothesis were conclusive and insurmountable. Not only is the anastomosis relied upon by Rindfleisch extremely limited, but it is mainly of a capillary nature; and so far as the small terminal branches of the pulmonary artery are concerned, it can scarcely be said to exist at all. It is just in these small terminal branches where the embolus which gives rise to the infarction usually lodges. So that in many cases, if not indeed in the majority, it is not probable that even this very sparse capillary anastomosis can be said to exist. An arterial communication is generally out of the question; but were the anastomosis to be of that character, *a priori*, it would seem that there could then be no infarction, or at least only a very minute one, if any at all. As to this point he therefore coincided with Dr. Henry. He endorsed in general the conclusions as to the course and modus of an infarction, reached by Cohnheim after a thorough experimental study of the subject; and in particular the regurgitation of blood from the venules connected with the capillary radicles of the obstructed artery as a competent cause of the engorgement and extravasation of blood in the infarcted area.

Dr. S. also admitted that in our study of the embolic processes we should not overlook general conditions any more perhaps than we should neglect them while examining any other morbid process. One cannot deny a very important influence to the action of the heart and the state of the blood in modifying or even originating morbid processes in different parts of the lungs. The observation by Peter, of the extreme rarity of phthisis pulmonum where disease of the left heart, resulting in mitral regurgitation, had previously existed, quoted by Dr. Guitéras, and the declaration of Lebert, that in congenital stenosis of the pulmonary artery there is a remarkable predisposition to the formation of tubercle in the lung, instanced by Dr. Henry, are extremely forcible reminders of that important influence. Nay, more, they may even be regarded as the finger-posts which point towards the cause and the cure of this fatal "ill which flesh is heir to." Men may question, as often as their liver or spleen may prompt them, the practical utility and value of pathological research. Although the nature of tuberculosis is only to be read to-day through the veil of many lingering clouds which must be removed, and the study of that nature has been and still is one of the most difficult and complicated in the whole field of pathology, yet, thanks to the investigations of the pathologist alone, besides many other points in its natural history which have been settled, it has been demonstrated that the disease can only exist when the blood-supply is far below that which is needed, and that the first step in the direction of a cure, or the healing of a tissue where tubercle is deposited, is the production around the morbid mass of a marked inflammatory hyperæmia. One of the essential characteristics of tuberculosis is that it is a bloodless process. Any condition, therefore, which tends to produce, or to continue, or to aggravate an ischæmia in a scrofulous or tuberculous person, tends to the production or the aggravation of the disease. On the other hand, the opposite condition is a powerful antagonist to the production or the continuance of the malady.

Dr. S. was willing to go as far as reason and experience would lead any one, in according to general conditions a due amount of consideration, but he thought that such

guides would not, in the present state of our knowledge, permit him to take such advanced ground upon the pyæmia question as Dr. Nancrede had assumed. He had no intention, however, of entering upon any lengthy discussion of the nature of pyæmia. His object in presenting the specimens had been merely to exhibit for the benefit of those members of the Society to whom the opportunity seldom or never comes of examining and studying for themselves the differences generally to be seen by the naked eye between embolic or non-infectious pneumonia and the pyæmic or metastatic abscess arising from an infectious embolus lodged in one of the vessels of the lungs.

He had never seen specimens which better contrasted the naked-eye appearances of those two different sequences of embolism in the lung, and he could not at all agree with Dr. Nancrede when the latter stated there was no essential difference between the form or shape of a pyæmic abscess and that of the infarction from a non-infectious embolus, and referred to the exhibited specimens as a corroboration of his opinion. On the contrary, the specimens show, in as typical a manner as possible, the difference which generally prevails.

Dr. S. did not believe it to be by any means an absolute rule that in embolic pneumonia the infarctions are wedge-shaped, with their base on or towards the pleura, and that in the metastatic abscess of pyæmia the infarctions have rounded borders, but he thought that generally this distinction was to be observed. In the present cases it can be very distinctly seen that nearly all the infarcts in the pneumonic case have a general wedge-shaped outline, while almost all of the metastatic abscesses of the other case have rounded forms. Dr. S. believed, with Drs. Norris and Guitéras, that the original form of the pyæmic infarct is shaped by the same mechanical conditions which generally secure to the non-infected infarction a pyramidal outline, which it retains, and that the inflammation and suppuration which the irritating embolus of pyæmia rapidly induces soon round off the corners and plane surfaces of the original wedge. When the post-mortem examination is made, the inflammation has generally existed long enough to have wrought this change. Hence the generally round or spherical aspect of the metastatic abscess. He believed also that there is in pyæmia an essential tendency to suppuration which cannot be satisfactorily accounted for by any amount of ordinary asthenia. Almost never, no matter how asthenic the patient may have been, do we find the infarctions of embolic pneumonia losing their characteristic shape from a secondary inflammation and suppuration. Dr. Nancrede attempts to escape the force of this fact by saying that we do not find the inflammation and suppuration here simply because the patients are overwhelmed by the plugging of their lungs,—are drowned before the inflammation has had time to develop. It is a sufficient answer to this conjecture to state that experience has shown that in the vast majority of cases which have been examined, the embolic patches are comparatively not very numerous, and are most frequently limited to the lower lobe of one lung, and that instead of death being caused by an overwhelming of the lungs, nearly all the patients die of some fatal intercurrent trouble.

Case of diabetes with fatty diarrhœa. Presented by Dr. M. LONGSTRETH for Dr. H. E. GOODMAN.

Col. S. M. Z., M.D., æt. 55 years, entered the army in 1861 in excellent health, weight about 190 pounds. In the summer of 1862 had an attack of jaundice, diarrhœa, cough, with fever, known as typho-malarial fever; recovered; had a return of diarrhœa, fall of 1863, at Lookout Mountain, for which obtained leave of absence; again had another attack after Sherman's march, for which granted leave of absence from Savannah, Ga., January, 1865. While at Gettysburg, July, 1863, met with an accident by his horse falling on him; supposed injury of spine, causing severe pain in back and limbs, for which he was sent to the general hospital at Georgetown, D.C. After the fall he was subject to pain in the back and numbness in limbs. Wife alleges he had a very severe attack of jaundice and diarrhœa after the war, during which he was not expected to live.

I knew the colonel from 1861 until his death in 1876, and saw him frequently in the field and after the war. From about 1867 or 1868 observed his gradual failing health. October 16, 1873, was first called to see him professionally. Found him emaciated; weight 125 to 130 pounds; diarrhœa so incessant as to confine him to bed; passage involuntary, of the consistence of sweet oil, leaving greasy spots on his bed-clothing. He alleged he passed two gallons of water daily. Had no fever nor pain, only prostration.

October 16, obtained specimen of fæces and urine, which Dr. R. M. Bertolet kindly reported, on October 18, 1873, as follows:

"DEAR DOCTOR,—The urine has a sp. gr. of 1044, an acid reaction, and is devoid of sediment. The normal contents, urohæmatics, urates, uric acid, diminished; chlorides normal in amount; triple phosphates, earthy phosphates, sulphates, apparently diminished quantity.

"*Abnormal contents*, glucose very abundant; no traces of albumen; sulphate of copper, etc., very readily oxidized. The fæces contain mucous epithelial cells in various stages of disintegration, and foreign matter; but the great bulk composed of fat, in the form of spherical masses, composed of dense aggregations of minute crystals, such as are pre-

sented by margarine. It is readily soluble upon the addition of chloroform under the slide.

"Very truly yours,

"R. M. BERTOLET.

"113 S. BROAD STREET."

As the case was one of unusual interest, I desired Dr. Da Costa in consultation. No tumor was felt in the abdomen. He was placed on a diet in which starch and fatty matters were excluded; at first skimmed milk, diabetic-bread, pancreatin, and pepsin, with quinine and opium in small quantities. Under this treatment he gained flesh, the diarrhœa ceased, no fat was observable in the fæces, and the sugar diminished in the urine. Whenever he would transgress in his diet, the diarrhœa and fatty discharges would return and the urine increase in quantity. I looked after him for about a year, during which he attended to his business. He afterwards fell into the hands of his old classmate Dr. McClintock, who continued to treat him until he died, in June, 1876. I saw him while visiting his son for a deformity of the ankle, about a month or two before he died, and found him dropsical and very feeble.

He desired his wife to have me make a post-mortem examination, which Dr. J. Morris Longstreth kindly performed for me twenty-four hours after death.

Autopsy, June, 1876.—Gen. Z., æt. 55. Thirty-nine hours after death. Body in ice. Emaciated.

Cavities. — *Abdomen* contained a small amount of serum, but showed no trace of recent inflammatory adhesions.

Right pleura.—The sac was obliterated by firm adhesion of the upper lobe, in which were found numerous ecchymotic patches; the lower part contained a collection of serum and a mass of recent flocculent lymph.

Left pleura.—There were a few old adhesions of the *left lung* to the chest-wall, a small collection of serum, but no recent lymph. The *pericardium* contained f℥ij of serum, with a little flocculent lymph.

Heart was covered with a small amount of fat. Left ventricle hypertrophied. Aortic semilunar valves showed no marked change. The orifice was rigid from atheromatous changes (one place was calcareous) just above the valves. The hydrostatic test showed slight incompetence at this orifice. Mitral valve was atheromatous in places.

Lungs.—The *left* was crepitant throughout, much congested posteriorly; its upper lobe normal; lower lobe on section exudes abundance of bloody, slightly frothy serum; its tissue unaltered in consistence. The *right* upper lobe showed a number of cheesy masses, and one cavity the size of a pullet's egg, containing thick yellowish-white matter. Its lower lobe was to a great extent carnified (compressed by inflammatory exudation), showing no cheesy masses, and no evidences of pneumonic consolidation.

Spleen was enveloped in a complete fibrous (inflammatory) capsule, was large (six inches in length), pretty firm, regular in outline; on section, its tissue was found normal in appearance.

Kidneys.—The left was much congested, the surface uneven and mottled, the capsule decidedly adherent. On section, the vessels were very conspicuous; the relation of cortex to medulla was normal. The whole organ was very considerably enlarged. The *right* presented about the same appearance. It was less congested, and its capsule was less adherent.

Suprarenal capsules were normal in size and consistence. The medullary portion was perhaps rather increased in amount.

On the left side of the vertebral column, behind and below the stomach, was found a rounded, firm mass, about the size of a large orange. It was tightly adherent posteriorly, especially to the connective tissue above the left kidney. The mass was carefully dissected out and found to be an enlargement of the tail of the pancreas. It was a cyst, with firm, rigid walls, so rigid that it did not collapse, nor could even be much indented, although its contents had escaped during the removal, at a point where the wall was thinned and adherent. Unfortunately, the fluid contents suddenly escaped, and none could be collected for examination. It was of a yellowish-green color, more fluid in consistence than white of egg. The tumor, together with the rest of pancreas, and about six inches of the duodenum were removed together, ligatures being placed on the intestine before its division.

Subsequently, dissection showed that the cavity of the cyst had no communication with the pancreatic duct. The interior was covered by dirty-brownish material, thickly gelatinous in consistence, which could be readily rubbed or scraped off, but had no tendency to separate of itself. Parts of this material were deeply colored black. Within the cyst, attached to the right wall, was found a rounded mass the size of a large plum, having a short fibrous pedicle. This mass was freely movable by its pedicle. The *pancreatic duct* was traced from the intestine through the length of the organ as far as the cyst-wall, at which point it ended abruptly. The lumen of the duct was very large throughout the whole length of the body of the pancreas, and suffered but little diminution as it approached the cyst. The portion of the duct passing in or behind the head of the organ to reach the intestine was narrow, perhaps narrower than normal; the probe found difficulty in passing this portion of the duct as it approached the wall of the intestine. The duct was opened at the point where it passed from the head to the body of the pancreas, and here were seen two small sacs or pouches in which some calculous matter rested. The

glandular tissue of the organ appeared to be entirely atrophied; the head of the pancreas was represented by a lump of fibrous tissue, which was continuous with a mass of connective tissue (new growth) between the stomach, pancreas, duodenum, and transverse colon. This connective tissue surrounded the blood-vessels in this region, and received numerous small branches from them, and was evidently constricting and pressing upon the duct.

The *common gall-duct*, which was also involved in the mass, was somewhat dilated; its entrance into the intestine, whilst somewhat narrowed, was less interfered with than the pancreatic duct.

The *splenic artery* was found passing along the border of the atrophied pancreas, and then on the posterior wall of the cyst, to which it was adherent. At the point where this vessel reached the cyst-wall it gave off a moderately large branch, passing apparently to the cyst, close to the attachment of the pedicellated mass within the cavity. No connection could be traced between them.

The vena portarum and the termination of its principal branches were lying in looser parts of the connective tissue, and seemed not to be interfered with by it.

The *liver* was large; its outline pretty regular; its capsule marked by occasional white patches or spots. On the surface of right lobe was a small spot of atrophy (racemose). On section, its tissue appeared normal.

The *gall-bladder* contained golden-colored bile. In it were found two small biliary concretions. Its mucous membrane appeared normal. Its duct, as well as the hepatic duct, appeared wide. They showed no point of constriction, and no evidence of inflammatory change. The connective tissue, from the transverse fissure of the liver downwards, enclosing the bile-ducts and vessels, was greatly increased in amount.

The *stomach* was contracted. Its mucous membrane showed very considerable post-mortem change, but nothing abnormal.

The microscopic examination of the contents of the intestinal tube showed nothing especial. There were present starch granules, partly disintegrated muscular fibres, very numerous oil globules, and amorphous granular matter.

The cortex of the kidney shows, microscopically, fatty changes in the epithelium of the tubules. At the periphery of the organ there is an increase of connective tissue, especially seen directly beneath the capsule, but also in the contiguous deeper parts.

Hepatic abscess discharging through the right lung. Presented by Dr. LOUIS STARR.

I am indebted to Dr. Forbes for the privilege of presenting these specimens, the patient from whom they were taken having been under his care in the Episcopal Hospital for a short time prior to death. They were obtained from the same case from which Dr. Packard removed the carcinomatous tumor which was exhibited to the Society on November 22, 1877.

The patient was a man 58 years of age, who was admitted to the surgical ward of the Episcopal Hospital on October 26, 1877. The tumor referred to was removed from the parotid region on October 29. On November 4 he was attacked with pneumonia of the lower lobe of the right lung. The acute symptoms began to subside in about two weeks, but he continued to have considerable cough, attended with the expectoration of somewhat tenacious, blood-stained mucus. Three weeks before death, which occurred on January 21, 1878, the expectoration changed in character, becoming more abundant, purulent, and slightly offensive in odor.

The *autopsy* was made twenty-four hours after death. On opening the thoracic cavity, the surface of the lower third of the right lung was found to be bound to the chest-wall by moderately-firm pleuritic adhesions, while the rest of the right pleural cavity was filled with a reddish sero-purulent fluid. In the upper postero-lateral portion of the fissure, between the superior and inferior lobes, there was an abscess an inch and a half in diameter, partially filled with thick purulent matter, and lined with a firm membrane. This abscess did not involve the lung-tissue, but communicated with the pleural cavity through an opening one-fourth of an inch in diameter, having thin, well-defined edges. In the lower part of the middle lobe there was a large cavity, with very irregular walls, having a free communication with one of the larger divisions of the right bronchial tube, and also, through a perforation in the diaphragm, with an extensive superficial abscess, situated upon the posterior portion of the convex surface of the right lobe of the liver. There was some congestion of the middle and lower lobes.

The left lung contained several isolated collections of caseous material, but in other respects was normal.

The abscess of the liver, though not extending deeply into the substance of the organ, measured nearly four inches in transverse diameter. The remainder of the hepatic structure was apparently healthy.

The cardiac walls were flabby, the kidneys were large and fatty, and the spleen was nearly twice its natural size.

COMPARATIVE VALUE OF BROMIDE AND CHLORIDE OF POTASSIUM IN EPILEPSY (*N. Y. Med. Jour.*, 1878, p. 403).—Dr. E. Seguin concludes as the result of numerous trials with these remedies—1, that KCl and K are not efficacious in the treatment of epilepsy; 2, that KBr and the bromides are positively useful in reducing the number and severity of epileptic attacks.

REVIEWS AND BOOK NOTICES.

CYCLOPÆDIA OF THE PRACTICE OF MEDICINE. Edited by DR. H. VON ZIEMSSEN. Vol. XIV. DISEASES OF THE NERVOUS SYSTEM AND DISTURBANCES OF SPEECH. By PROF. A. EULENBURG, PROF. H. NOTHNAGEL, PROF. H. VON ZIEMSSEN, PROF. F. JOLLY, PROF. A. KUSSMAUL, and DR. J. BAUER. ALBERT H. BUCK, Editor of the American Edition. New York, William Wood & Co.

That portion of the present volume of Ziemssen's "Cyclopædia" which treats of diseases of the nervous system is chiefly occupied by Prof. Eulenburg's articles upon vaso-motor and trophic neuroses, angina pectoris, unilateral progressive atrophy of the face, Basedow's disease, progressive muscular atrophy, pseudo-hypertrophy of the muscles, and true muscular hypertrophy, as well as catalepsy, tremor, paralysis agitans, and athetosis. In addition, Nothnagel writes upon epilepsy and eclampsia, Bauer upon tetanus, Von Ziemssen upon chorea, and Jolly upon hysteria. It is, perhaps, necessary that these articles should be brief, but it makes them somewhat unsatisfactory for reference, and we could wish that Kussmaul's essay upon disturbances of speech, deeply interesting as this is, might have been in part sacrificed to the more "practical" portion of the volume. Fortunately, the admirable bibliography attached to each article fills up some lacunæ. X.

GLEANINGS FROM EXCHANGES.

DEATH DURING INHALATION OF ETHER.—The following case is reported in the *British Medical Journal* for May 18, 1878: "A man was admitted to the London Hospital suffering from irreducible scrotal hernia. Taxis having been used, but the symptoms remaining unrelieved, it was considered advisable to place the man under an anæsthetic. The house-surgeon accordingly administered ether, using not more than one ounce and a half in all. The patient came under the influence of the ether rapidly, and without difficulty or adverse symptoms. The local examination was then proceeded with. The patient's respirations were perfectly regular, and his pulse good, when, about six minutes after inhalation began, a sudden spasmodic inspiratory sound was heard, as if he were choking. His tongue was immediately drawn forward with the forceps; but respiration had ceased, although his pulse continued to beat for another half-minute. Silvester's artificial respiration was employed, but no spontaneous inspiratory effort followed. During the artificial respiration, some fecal matter came up into the mouth. These efforts were continued a quarter of an hour, but proved useless. At the post-mortem examination, the left ventricle was found contracted; but the heart appeared healthy. The lungs were extremely congested. There was fecal staining of the œsophagus and larynx, but no such matter had been drawn into the lungs. The liver was healthy. The kidneys were slightly granular, but not congested. The portion of small intestine which had been strangulated was about twenty inches in length, extremely congested, with commencing peritonitis upon its surface. It must be remembered that in such a case as this, where strangulation had existed four days, and was attended with constant vomiting and a feeble circulation, there were many circumstances predisposing to death besides the administration of ether.

TREATMENT OF PUERPERAL AND OTHER HYPERPYREXIÆ BY COLD.—Dr. Wiltshire (*British Medical Journal*, May 18, 1878) gives notes of two cases of puerperal hyperpyrexia treated by means of dry cold,—the patients being surrounded in their beds with bottles, etc., filled with ice. This reduced the temperature for the time being, usually, but not invariably. The relief experienced by the patients was at times great and palpable, but they could not sleep during the applications, possibly because none were made to the head. Dr. Wiltshire prefers the dry packing as obviating the necessity of removal from bed. In the same number of the journal, Dr. Waters gives an account of a case of acute rheumatism and one of typhoid fever successfully treated by cold baths.

A PHYSIOLOGICAL HINT TO PHOTOGRAPHERS.—Discomfort, amounting in many persons to actual distress, is experienced in sitting for a photographic portrait. The eye is fixed on a certain spot, and, whilst staring at this, vision becomes indistinct, surrounding objects especially being lost in a thickening mist. A feeling of giddiness, and even of faintness, is apt to follow if the sitting is at all prolonged. Whilst undergoing an ordeal of this kind the idea was suggested to Dr. Buzzard (*Lancet*, April 20) that a diagram of a clock-face some four inches in diameter and posted about eight feet in front of the sitter would be a more agreeable object to look upon. He tried the experiment, allowing his eye to rest first upon the figure XII, then upon I, and so on around the circle. While this slight change rested the eye and preserved the brain from fatigue, the photographer found that it produced no indistinctness in the picture of the eye, even the iris being well defined. It is evident that the plan described is likely incidentally to prevent to a great extent the staring expression which the face assumes when the gaze is long fixed upon an object, for it combines a certain amount of free play of the eyes with accuracy of photographic definition. Dr. Buzzard says, "A somewhat larger circle, I have no doubt, may be employed with even greater advantage; and

printed words, pictures, or other objects may replace the figures. For children, and others who do not easily follow directions, a disc with a single aperture towards its edge might be made to revolve, in the direction of the hands of a clock, before another disc prepared with pictured objects of some kind or other, so that one would appear at a time at short intervals of space, and attract the eye. Various other modifications, indeed, at once suggest themselves as feasible, so long always as the figure towards which the gaze is directed presents a *succession* of objects arranged in a circular form."

SUCCESSFUL TREATMENT OF FUNGUS, OR SO-CALLED HERNIA CEREBRI, BY SOLUTION OF PERMANGANATE OF POTASSIUM UNDER PRESSURE.—Dr. H. O. Hitchcock reports in the *Detroit Lancet* for January two cases of hernia cerebri following injury to the skull, in which he applied a folded cloth saturated in a solution of permanganate, ten grains, and later twenty, to the ounce, secured with slight pressure by a roller. The treatment appeared to act well, recovery taking place in both cases.

MISCELLANY.

A NEW, CHEAP, AND SELF-GENERATING DISINFECTANT. — Under this title, Dr. John Day, of Geelong, Australia, recommends for use in civil and military hospitals, and also for the purpose of destroying the poison-germs of smallpox, scarlet fever, and other infectious diseases, a disinfectant ingeniously composed of one part of rectified oil of turpentine and seven parts of benzine, with the addition of five drops of oil of verbena to each ounce. Its purifying and disinfecting properties are due to the power which is possessed by each of its ingredients of absorbing atmospheric oxygen and converting it into peroxide of hydrogen,—a highly active oxidizing agent, and very similar in its nature to ozone.

DR. G. F. WATERS, of Boston, has found the milky juice of the common milk-weed (*Asclepias Syriaca*) to afford an elegant method of healing wounds. The only essential point is to dry the wounded surface gently and thoroughly with blotting-paper before applying the milk-weed juice. From the description, it appears that after the juice was applied, and while the healing was in progress, a piece of blotting-paper was also used to cover the surface.—*Exchange.*

NOTES AND QUERIES.

OBITUARY.

BREVET BRIGADIER-GENERAL J. J. B. WRIGHT, a veteran medical officer of the United States Army, and among the most widely known and esteemed of the medical staff, died at his residence in Carlisle, Pennsylvania, on the 14th of May, 1878.

General Wright was born at Wilkesbarre, Penna., in May, 1801. After graduating in the Medical Department of the University of Pennsylvania, he engaged successfully in the active duties of professional life near his native town, but, becoming dissatisfied, he entered the medical corps of the army, his commission dating from October 25, 1833.

Most of Dr. Wright's official career was spent on frontier stations, and he was actively engaged in both the Seminole and Mexican wars, receiving during the latter service marked commendation from his commanding officers.

During the late war, Surgeon Wright was on the staff of Generals McClellan and Rosecrans, as Medical Director of the Department of the Ohio, and was in the field during the early engagements in West Virginia. Subsequently he was Medical Director of the Department of the Missouri, on the staff of General Halleck. He attained the rank of colonel and brevet brigadier-general, and was retired December 31, 1876, after a service of more than *forty-three* years on the active list.

General Wright was a man of remarkable individuality and force of character; of great urbanity in his bearing towards every one; of true soldierly instincts in whatever appertained to duty, never permitting personal considerations to interfere with its prompt discharge.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY FROM JUNE 2 TO JUNE 15, 1878.

HEAD, J. F., LIEUTENANT-COLONEL AND SURGEON.—Granted leave of absence for two months. S. O. 47, Division of the Atlantic, June 4, 1878.

BAILY, J. C., MAJOR AND SURGEON.—To accompany troops ordered on campaign against the Bannock Indians in Southern Idaho, and to report in person to Major George B. Sanford, 1st Cavalry, at Kelton Station, C. P. R. S. O. 79, Division of the Pacific and Department of California, June 3, 1878.

WILLIAMS, J. W., MAJOR AND SURGEON.—Assigned to duty at Fort Sill, Indian Territory. S. O. 102, Department of the Missouri, June 5, 1878.

BROWN, H. E., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at San Antonio, Texas, to date from June 4. S. O. 118, Department of Texas, June 7, 1878.

KOERPER, E. A., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty with troops ordered from Camp Douglas, U. T., to temporary duty at Fort Hall, Idaho. S. O. 50, Department of the Platte, June 5, 1878.

VICKERY, R. S., CAPTAIN AND ASSISTANT-SURGEON.—Leave of absence extended one month. S. O. 125, A. G. O., June 10, 1878.

O'REILLY, R. M., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Charleston, S.C. S. O. 65, Department of the South, June 4, 1878.

PATZKI, J. H., CAPTAIN AND ASSISTANT-SURGEON.—To report in person to the Army Medical Board, New York City, for examination for promotion, and, on completion of examination, to the Commanding General, Department of the East, for assignment to duty. S. O. 125, c. s., A. G. O.

WINNE, C. K., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one year from June 1, 1878, on Surgeon's certificate of disability. S. O. 120, A. G. O., June 4, 1878.

KILBOURNE, H. S., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Fort Riley, Kansas. S. O. 102, c. s., Department of the Missouri.

BARNETT, R., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Fort McKinney, Wy. T. S. O. 53, Department of the Platte, June 11, 1878.

WOOD, M. W., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Fort McPherson, Nebraska. S. O. 53, c. s., Department of the Platte.

TAYLOR, M. E., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To proceed to Santa Fé, and report to the Commanding Officer, District of New Mexico, for assignment to duty. S. O. 105, Department of the Missouri, June 12, 1878.

NEWLANDS, WILLIAM L., FIRST-LIEUTENANT AND ASSISTANT SURGEON.—Granted leave of absence for four months, with permission to go beyond sea. S. O. 121, A. G. O., June 5, 1878.